Pest Update (July 14, 2009)

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http://www.state.sd.us/doa/Forestry/educational-information/Pest-Alert-Archives.htm.

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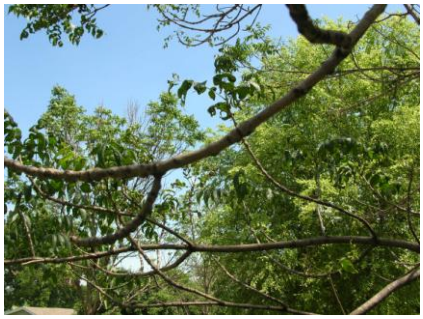
Plant development (Phenology) for the growing season

The smoke trees are in full bloom in Brookings. We are still ahead of last year for plant development but a little behind 2007, just about an average season.

E-samples

Dutch elm disease reports appear to be mixed across the state. Many locations are reporting fewer incidences of the disease, while other communities have already marked more trees than they do in a typical year. The only factor that may explain this difference is the density of elms present in the community. Cities with so few elms that they are now widely spaced, no longer have losses due to root graft transmission, a common source of infection for street trees. Trees infected with Dutch elm disease generally have branches, or perhaps the entire canopy, dropping leaves at this time. These fallen leaves are usually yellow, curled, and dry. The sapwood in the branches with these dry, curled leaves still attached will typically have brown streaking. There is another disease called black spot that is producing similar symptoms at this time. Elm trees infected with the foliage disease black spot will also have the ground littered beneath them with leaves but these leaves will be yellow with small black spots, not curled and be moist. The best means of managing Dutch elm disease for the community is to quickly remove infected trees. Valuable elms can be protected with injections of any number of fungicides but theses need to be applied by a commercial applicator and treatments must be redone every two to three years.



Another decline we are observing across the state, but more mysterious in origin, is affecting black ash. The dieback and decline of black ash (*Fraxinus nigra*) was noted throughout the Midwest and Northern Plains beginning about five or six years ago. The symptoms typically associated with the decline were wilting and dying leaves by mid-summer followed by dieback and eventually the entire tree dying by the next year. Studies have attempted to connect this decline to abiotic or biotic stressors but there has not been a single cause, or even a complex, that can explain the decline. Since black ash is also susceptible to emerald ash borer, this decline may not have much relevancy but it is another reason to discontinue its use in the landscape.

Another increasing problem is the locust borer (*Megacyllene robiniae*). This insect was not very common in South Dakota but with the increased popularity of black locust in the state, particularly the cultivar Purple Robe, this borer is showing up throughout the state. The symptoms of an infestation right now are dying trees or small locust that have their lower trunks break off. Inside these trees you'll find a cream-colored larva with a brown head and about 1 inch long. This is a picture of one taken by Dave, a service forester based out of Hot Springs. The locust borer only attacks black locust, not honeylocust, and the treatment is an application of an insecticide containing permethrin at the beginning of August. This insect is a little unusually in that the adult – a black beetle with yellow "W" shaped bands across the back – is active in late summer, not spring or early summer as with most borers.

Samples received

Beadle County (extension) **What is wrong with Donald's apple tree? The lower, interior branches are dying but the ones near the top are fine and bearing fruit.**

Apples do not do well if the canopies are too dense. The interior shading results in the decline of these lower branches. The branches produce less fruit, smaller in size and not as flavored. The branches also die out after a while. A good rule-of-thumb is you should see about 30% sky when you stand beneath your apple tree and based on the photographs provided I doubt this is possible. My suggestion is to prune out the dead lower branches and then thin out the remaining branches this winter to create a more open canopy.

Bon Homme County (extension) **What is wrong with this ponderosa pine?**

This is the fungal disease Diplodia tip blight. See the sample for Douglas County for more information on this disease.

Davison County (extension) **What is wrong with this ash tree? It has a thin canopy and many branches are barren. The leaves are smaller and pale.**

I cannot tell the problem from the sample provided. It is not verticillium wilt, nor is there any other stressor present on or in the sample. The growth was much reduced for this year and last year. Before that the tree was putting on excellent growth. You'll need to go back to the homeowner and ask if anything happened to this tree in 2007 or early 2008 that might have caused the growth to slow so abruptly.

Douglas County (extension) **What is wrong with Josie's pine tree?**

This is the fungal disease Diplodia tip blight, a common disease of ponderosa pines and Austrian pines in our state. The typical symptoms are the new shoots become stunted and the attached needles become brown and then gray before falling. Infected trees often lack most of the older needles as these have been shed when they were forming. The control is an application of a fungicide containing chlorothalonil just as the buds are swelling and then repeat as the needles are emerging from the candle and once more about two weeks later.

McPherson County (conservation) **What is wrong with these dogwoods?**

Dogwoods suffer from a number of diseases in our state. Septoria leaf spot is common on the shrubs but rarely causes serious problems. The twigs submitted show extensive dieback and some cankering at the bases. Botryosphaeria canker is a possibility but I cannot tell from the sample. These canker diseases are common on dogwood, particularly on dry sites. This is one reason I dislike dogwood used on drier sites. My recommendation is to prune out the affected stems this winter – down to about 2 inches tall – and hope they recover next year.

Yankton County (extension) **What is this strange growth on the willow?**

This is the willow cone gall created by the willow cone gall midge (*Rhabdophaga strobiloides*). The adult midge lays an egg on the expanding terminal bud and the feeding by the soon hatch larva causes this growth to occur. The midge larva is inside the cone gall at this time and will form a pupa next spring and then the adult. There is no effective control, nor does there need to be as the galls usually only result in some distorted branches.

Yankton County (extension) **What is causing the leaflets to cup and curl on this honeylocust tree?**

This is the honeylocust podgall midge (*Dasineura gleditschiae*). The larvae feed on the leaflets as they are forming which results in cupping and eventually pod-like galls. The galls darken by late summer and begin to fall from the tree. The adults overwinter in the litter beneath the trees and then to the

expanding foliage to lay eggs. There are several generations per summer but the larvae feed on the most recently developing foliage so only the growing tips are affected. While there are several generations per year it is the first one that requires control, treat in May with an insecticide containing carbaryl and then repeat the treatment every two weeks till the end of June.

Yankton County (extension) **What is the problem with this silver maple?**

While there is some problem with leaf spot disease, the primary stressor is iron chlorosis. This is causing the yellowing leaves with the greenish veins. The problem is due to the tree growing on alkaline soil that causes the iron to become unavailable for tree's use. Merely adding more iron will not help as this new source of iron also quickly becomes unavailable. Adding sulfur to lower the pH may not be practical as our soils quickly rebound in pH after sulfur applications and the sulfur may be harmful to organisms that improve iron uptake. The best solution (other than remove the tree and plant one more adapted to the soils) is to add an iron chelate in the spring. The iron chelate must be a FeEDDHA formulation to work in our highly alkaline soils so Sequestrene 138 is a good choice. Apply it in the spring, at the rate specified on the bag, and water it in. These will need to be applied on an annual basis.

Yankton County (extension) **What is wrong with this Nanking cherry? The leaves on some of the stems are yellowing and are much smaller than the others.**

I suspect a canker in the lower stems on those shoots that are exhibiting these symptoms. I cannot be certain since the samples did not include this but it is the most likely possibility based on the symptoms observed in the picture and the sample provided. I would just prune out the abnormal stems.

Yankton County (extension) **What is this plant? They think it might be a honeysuckle.**

No, this is a serviceberry, a member of the genus Amelanicher. These plants are noted for their attractive early spring flowers, small blue fruit in late June and a good reddish fall color.